



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,905	06/24/2003	James A. Hoff	1104-750/ RKE-075	2171
7590	03/31/2008			
Woodard, Emhardt, Moriarty, McNett & Henry LLP Bank One Center/Tower Suite 3700 111 Monument Circle Indianapolis, IN 46204-5137			EXAMINER SMALLEY, JAMES N	
			ART UNIT 3781	PAPER NUMBER
			MAIL DATE 03/31/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/602,905

Filing Date: June 24, 2003

Appellant(s): HOFF, JAMES A.

---

James M. Durlacher  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the Reply Brief filed 10 October 2006 appealing from the Office action mailed 30 November 2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

With regards to section VII(A), Appellant proceeds on the presumption that the rejection of claims 1, 8 and 9 is incorrect and assumes the rejection is based on claims 1, 5 and 9. Examiner notes the rejection was properly made and pertains to claims 1, 8 and 9 as listed in the Final Action.

With regards to section VII(B), Examiner notes claim 18 should be removed because it was canceled. The rejection only pertains to claims 2-5 and 7.

With regards to section VII(D), Examiner notes claim 18 should be removed because it was canceled. The rejection only pertains to claims 13-17.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

4,105,135	BRADSHAW et al.	8-1978
4,124,140	ZIEGLER et al.	11-1978
5,680,953	BAUGHMAN	10-1997
5,971,189	BAUGHMAN	10-1999

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

A. Claims 1 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Bradshaw et al. US 4,105,135 in reference to Baughman US 5,971,189.

Bradshaw '135 teaches a closure plug (1) comprising a threaded body for receipt by a threaded flange (10), a radial flange (6), and a plurality of unitary axially-protruding projections (8) from an outer portion of the flange.

Regarding claim 1, Examiner notes the claim preamble is drawn to a closing plug for receipt by a threaded flange (emphasis added). The axially-protruding projections/scallops (8) of Bradshaw '135 are capable of being used in the intended manner, i.e. as abutments for limiting the threaded advancement of the plug by abutment against a surface of a drum end. For example, the closing plug of Bradshaw '135 could be applied to another threaded flange, such as that of Baughman US 5,971,189, incorporated herein by reference, whereby the projections would abut a surface of the drum end. In fact, it can be clearly seen in the cover figure of the Baughman '189 patent that a similarly-dimensioned axial projection abuts a drum surface, and prevents advancement. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Art Unit: 3700

Regarding claim 8, Examiner notes the axially-protruding projections/scallops (8) are of unitary construction with the plug.

Regarding claim 9, Examiner notes the flat surface is read to be the surface extending radially outwardly from the longitudinal axis, along the bottom edge of the curved flange (8). This surface is furthermore perpendicular to a longitudinal axis of the plug. See Bradshaw '135, figures 3-4, at element (8).

B. Claims 2-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al. US 4,105,135.

As to claims 2, 3 and 7, Bradshaw '135, as applied to claim 1 above, teaches all limitations substantially as claimed, but does not teach the radial flange having a modified hex-shape, or further having six projections. However, Bradshaw '135 teaches, in column 2 lines 48-51, that the closure is applied by "...engaging one's hand with the scalloped portions 8 and screwing the plug down into the flange".

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the closure of Bradshaw '135, providing an additional projection for a total of six projections, motivated by the benefit of increasing the number of points whereby a hand may engage the plug to provide opening torque. Furthermore, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. The decision notes, "Combination cannot be patented unless it is synergistic, that is, results in effect greater than sum of several effects taken separately." In the instant case, adding a sixth scallop to Bradshaw '135 will not synergistically increase the benefit afforded by the scallops. In other words, adding a sixth flange will not provide an increased torque-generating benefit greater than the sum afforded by each scallop.

Regarding claim 4, Examiner notes the axially-protruding projections/scallops (8) are of unitary construction with the plug.

Regarding claim 5, Examiner notes the flat surface is read to be the surface extending radially outwardly from the longitudinal axis, along the bottom edge of the curved flange (8). This surface is

Art Unit: 3700

furthermore perpendicular to a longitudinal axis of the plug. See Bradshaw '135, figures 3-4, at element (8).

C. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baughman US 5,680,953.

Baughman '953 teaches a plastic drum closure, comprising a threaded drum opening (21) and a plug (20), with a radial flange (69), an annular axially protruding projection (51), defining a groove (44) and gasket (61).

Baughman '953, as applied, teaches all limitations substantially as claimed, but does not teach the radial flange comprising a plurality of projections, instead disclosing an annular projection (51).

However, Examiner notes the projection could be formed of a plurality of projections without interfering with the proper function of the device. The groove (44) could still be formed despite the projection being formed of a plurality of projections. Furthermore, the gasket will still be properly secured, due to the presence of the annular wall (32).

It would have been obvious to one having ordinary skill in the art to form the annular projection of a plurality of projections, motivated by the benefit of reducing the amount of material used in the formation of the invention. It has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Furthermore, Examiner notes the claim is drawn to a drum closure "for a drum end" and notes the contact which limits the threaded advancement of the closure occurs between the claimed projections on the closing plug, and between the drum end, to which the closing plug is to be applied. In other words, the claimed threaded flange and closure plug must only meet all claimed structural limitations of the instant invention, in order to be capable of being used in the intended manner. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

D. Claims 13-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Ziegler et al. US 4,124,140 in view of Bradshaw et al. US 4,105,135.

Art Unit: 3700

Regarding claim 13, Ziegler '140 teaches a threaded flange (26) for assembly into a drum end (20), a closing plug (38) including a flange (36), and a sealing gasket (28) positioned around the threaded flange (26).

The reference as applied teaches all limitations substantially as claimed but fails to teach the closure cap having a plurality of spaced-apart axially-protruding projections extending from an outer portion of the radial flange in the direction of the drum end for limiting the threaded advancement of the plug.

Bradshaw '135 teaches a closure plug (1) comprising a threaded body for receipt by a threaded flange (10), a radial flange (6), and a plurality of unitary axially-protruding projections/scalloped portions (8) from an outer portion of the flange. Bradshaw '135 teaches, in column 2 lines 48-51, that the closure is applied by "...engaging one's hand with the scalloped portions 8 and screwing the plug down into the flange".

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the closure cap of Bradshaw '135 on the closure of Ziegler '140, motivated by the benefit of providing means for a user to engage the cap and screw the closure into the neck/flange by hand.

Examiner notes applying the closure of Bradshaw '135 to the drum opening of Ziegler '140, perhaps in the embodiment of figures 8-9, will result in a connection between the axially-protruding projections of Bradshaw '135 and the drum end of Ziegler '140, while simultaneously compressing gasket (28). Comparing between Ziegler '140, figure 8, and Bradshaw '135, figure 4, it can be seen that the neck end of Bradshaw '135 is flared conically downwardly and outwardly from the neck opening, while the neck of Ziegler '140 extends outwardly horizontally, making it likely the axial projections (8) of Bradshaw '135 will contact the drum end.

Furthermore, examiner notes the claim is drawn to a drum closure "for a drum end" and notes the contact which limits the threaded advancement of the closure occurs between the claimed projections on the closing plug, and between the drum end, to which the closing plug is to be applied. In other words, the claimed threaded flange and closure plug must only meet all claimed structural limitations of the instant invention, in order to be capable of being used in the intended manner. It has been held that a

Art Unit: 3700

recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

*Ex parte Masham*, 2 USPQ2d 1647 (1987).

Regarding claims 14-17, Bradshaw '135 does not teach the radial flange having a modified hex-shape, or further having six projections. However, Bradshaw '135 does teach in col. 1, lines 38-42, the downwardly deformed scallops (8) are provided as actuating surfaces for the application of torque by hand engagement.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the closure of Bradshaw '135, providing six projections, motivated by the benefit of increasing the number of points whereby a hand may engage the plug to provide opening torque.

Furthermore, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. The decision notes, "Combination cannot be patented unless it is synergistic, that is, results in effect greater than sum of several effects taken separately." In the instant case, adding a sixth scallop to Bradshaw '135 will not synergistically increase the benefit afforded by the scallops. In other words, adding a sixth flange will not provide an increased torque-generating benefit greater than the sum afforded by each scallop.

Regarding claim 16, Examiner notes the axially-protruding projections/scallops (8) are of unitary construction with the plug.

Regarding claim 17, Examiner notes the flat surface is read to be the surface extending radially outwardly from the longitudinal axis, along the bottom edge of the curved flange (8). This surface is furthermore perpendicular to a longitudinal axis of the plug. See Bradshaw '135, figures 3-4, at element (8).

**(10) Response to Argument**

**A. (First Grounds) Rejection Under 35 U.S.C. 102 (b) over Bradshaw et al. (U.S. Patent No. 4,105,135) in reference to Baughman (U.S. Patent No. 5,680,953).**

**Claim 1**

Regarding claim 1, Examiner notes Appellant disagrees that the closure cap of Bradshaw is capable of being used in the intended manner. Examiner notes the preamble of the claim is drawn to "A closing plug for receipt by a threaded flange that is assembled into a drum end" (emphasis added). In other words, the claim is drawn to the plug. In order to anticipate the claim, a device must be capable of being used in the intended manner. It must recite the claimed structure, and must only be capable of performing in the claimed manner regarding structural limitations of the preamble which are not positively claimed. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). Therefore, the Appellant's assertion that selective placement of the closure plug of Bradshaw is hindsight is not valid. This analysis must be used in order to prove that the device is capable of being used in the intended manner. The only functional limitation of claim 1 is that the axially-protruding projections limit the threaded advancement of the plug into a drum flange by abutting against a drum end. However, the drum end is only claimed as an intended use limitation, as per the preamble of claim 1. Therefore, the flanges of Bradshaw must only be capable of abutting a drum end to prevent threaded advancement of a closure plug in order to properly anticipate the claim. Examiner notes the axial projections of Bradshaw are capable of performing in the intended manner, i.e. they are capable of stopping threaded advancement of a plug into a threaded outlet by virtue of their axial length. To clarify, take note of the role of the downturned flange (51) of Baughman in figure 4, and how this flange serves to stop threaded advancement of the closure plug in figure 7 of the same patent. It is the Examiner's position that the axial projections of Bradshaw -- given an appropriately-dimensioned drum opening with an annular flange about the threaded opening such as that of Baughman -- are capable of being used in the intended manner, that being they are capable of preventing threaded advancement of the plug into a drum opening by abutting against a drum flange of

Art Unit: 3700

sufficient height about the threaded opening. This analysis does not require hindsight reasoning, as asserted by the Applicant. Instead, the simple premise is based on a showing that the axial projections are capable of stopping the threaded advancement of the plug, and thus the plug is capable of being used in the intended manner.

Appellant also argues that the “flange” of Baughman does not meet the definition of the term based upon Appellant’s application. However, Examiner notes the Appellant’s Specification lacks a clear and concise definition for the term “flange.” Therefore, in consideration of the fact that the flange is part of the intended use of claim 1, and furthermore that the Specification fails to provide a clear and concise definition for the term “flange,” Examiner has given the term the broadest reasonable interpretation.

Appellant’s arguments that the drawing is not to scale, based on the Examiner’s assertion that the two flanges are “similarly dimensioned” is also not relevant. Examiner clarifies that the axial projections of the Baughman and Bradshaw patents are “similarly dimensioned” in that they both extend a short axial distance from the peripheral edge of a horizontal flange, but are far short of the bottom of the closure plug. The point of this is to strengthen the argument that the plug of Bradshaw would properly function in the intended manner of stopping threaded advancement if applied to the port of Baughman. Examiner notes that the only thing required for successfully applying the closure plug of Bradshaw to a drum end is that the drum end also be threaded. In this case, because Baughman is also threaded, there is a great expectation of success.

Finally, Appellant’s arguments that “there is nothing stated in either Bradshaw et al. or in Baughman which would suggest this hand picked combination of features and there is no direction or motivation set forth in Bradshaw et al. suggesting that the plug could be exported to a different closure system,” as quoted from the Appeal Brief, page 10, last paragraph, is not relevant because the rejection is made under 35 U.S.C. 102(b) in reference to another patent, but not in a *prima facie* case of obviousness. Appellant’s numerous citations on pages 11-14 of the Appeal Brief, based on the legality of obviousness, are therefore not found to be relevant because an obviousness combination has not been made, and therefore no rebuttal is deemed necessary.

**Claims 8 and 9**

Regarding claim 8, Examiner notes it is clear the axially-protruding projections (8a) are of unitary construction with the radial flange as best seen in figure 3.

Regarding claim 9, Appellant's arguments are drawn to the Examiner's interpretation of what a flat surface is. Examiner asserts the cross-sectional view of the flange, in Bradshaw figures 3-4 shows a flat surface. A line is a surface, because it is comprised of matter. In geometry, a line is an imaginary concept; in this case, the flat surface of the downturned axial projection is comprised of a line of matter -- possibly a string of plastic molecules -- which have a measurable width, length, and are flat.

**B. (Second Grounds) Rejection Under 35 U.S.C. 103(a) over Bradshaw et al. (U.S. Patent No. 4,105,135).**

**Claims 2, 3, 4 and 5**

Regarding claims 2-3, Appellant argues the Examiner has made up motivation to modify Bradshaw to modify the number of downturned axial flanges. Examiner notes Bradshaw, column 2, lines 47-51 teaches "engaging ones hand with the scalloped portions and screwing the plug down into the flange." The rejection of the claims is based on the obviousness in duplicating the working parts of the invention. It has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. The decision notes, "Combination cannot be patented unless it is synergistic, that is, results in effect greater than sum of several effects taken separately." In the instant case, adding a sixth scallop to Bradshaw will not synergistically increase the benefit afforded by the scallops. In other words, adding a sixth flange to Bradshaw, as is the case in the instant invention, will not provide an increased torque-generating benefit greater than the sum afforded by each scallop. To further summarize, it is the Examiner's position the instant invention as claimed does not differ from Bradshaw in any form beyond having added an extra flange. Although the downturned axial flanges of the instant invention have a different purpose than those of Bradshaw, Examiner asserts that because the claim is drawn to a plug for use with a drum end, the motivation to modify Bradshaw is based on the teachings of Bradshaw, i.e. adding a sixth flange to enhance the

Art Unit: 3700

gripability of the plug, and not based on the Appellant's disclosures. Appellant's arguments that the rejection is the "poster child" of hindsight reasoning is also improper. The courts have ruled that duplication of the working parts of the invention involves routine skill in the art. Lastly, regarding the "modified hex shape," Examiner notes that a sixth downturned flange would create the modified hexagonal shape as claimed by the Appellant.

Regarding claim 4, Examiner notes it is clear the axially-protruding projections (8a) are of unitary construction with the radial flange as best seen in figure 3.

Regarding claim 5, Examiner notes the arguments for this claim are identical to those already presented above with regard to claim 9.

**C. (Third Grounds) Rejection Under 35 U.S.C. 103(a) over Baughman (U.S. Patent No. 5,680,953).**

**Claim 13**

Regarding claim 13, Appellant's challenge that Baughman, by not teaching a flange for insertion into the drum, is a critical omission is not relevant. Examiner asserts the claim appears to be a product-by-process claim. Whether inserted into the drum end through an in-situ deformation process, as appears to be the case of the instant invention, or integrally molding the flange with the drum end, the final product in either situation comprises a threaded flange connected to a drum end. It has been held that method limitations in a product claim do not serve to patentably distinguish the claimed product from the prior art. See *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). Thus, even though a product-by-process claim is limited and defined by a process, determination of patentability is based on the product itself. Accordingly, if the product in a product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process. *Thorpe*, 777 F.2d at 697, 227 USPQ at 966; *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983).

**D. (Fourth Grounds) Rejection Under 35 U.S.C. 103(a) over Ziegler et al. (U.S. Patent No. 4,124,140) in view of Bradshaw et al. (U.S. Patent No. 4,105,135).**

**Claims 14, 15, 16, and 17 [KY1]**

Regarding claims 14, 15 and 16, Examiner notes the claim is once again drawn to “a drum closure for a drum end.” The threaded advancement of the plug is claimed to be limited by an abutment between the axial projections and the drum end. Therefore, the combination of the prior art must only be capable of being used in the intended manner to properly reject the claim, as noted above in arguments made regarding the propriety of the rejection of claim 1, because of the functional relationship between the positively claimed plug and the intended-use claimed drum end. Examiner notes Baughman, although not used in the rejection, can be summoned as evidence that the closure plug of Bradshaw can be used in the intended manner, because it also teaches a downturned axial flange acting as stop for threaded advancement. Examiner notes the rejection is based on the obviousness of using one plug in place of another, with a strong expectation of success, and furthermore that the plug of Bradshaw is capable of being used in the intended manner. Examiner notes the neck flange comprising elements (16) and (17) extends downwardly and conically away from the neck. However, the Zeigler flange (46) and (24) extends horizontally outward, and thus is not as axially removed from the bottom of the axially-extending projections of Bradshaw. Therefore, Examiner asserts the plug of Bradshaw could be used in the intended manner if applied to the drum of Zeigler. At the very least, as noted above regarding claim 1, the plug could be used on the neck of Baughman and would function in the intended manner, that being the threaded advancement of the plug would be stopped by contacting the drum end while compressing a gasket.

In summary, Examiner notes that Appellant has claimed a plug for use with a drum end, and that by claiming a functional relationship between the plug and the drum end, a proper rejection of the claims must only teach the structural features of the plug and be capable of performing in the intended manner. As such Examiner has shown Bradshaw teaches the claimed plug structure, and that the plug of Bradshaw can be used in the intended manner if applied to an appropriately dimensioned drum end. It is

Art Unit: 3700

the Examiner's position that applying the closure plug of Bradshaw to the drum end of Baughman or Zeigler is necessary in order to prove the plug is capable of being used in the intended manner. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Regarding claim 17, Examiner notes the arguments for this claim are identical to those already presented above with regard to claim 9. Thus, no further argument is deemed necessary.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/James Smalley/

James N Smalley

Examiner, Art Unit 3781

/KAREN M. YOUNG/

Director, Technology Center 3700

Conferees:

/Nathan J Newhouse/

Nathan J. Newhouse

SPE, Art Unit 3782

/Jes F. Pascua/

Jes Pascua

Primary Examiner, Art Unit 3782